Chester Bridge
Spanning the Rock River on Old Marsh Road
(Old State Trunk Highway 49)
Chester Township
Dodge County
Wisconsin

HAER No. WI-59

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
U. S. Department of the Interior
P. O. Box 25287
Denver, Colorado 80225

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HISTORIC AMERICAN ENGINEERING RECORD

Chester Bridge

HAER No. WI-59

Location: Spanning the Rock River on Old Marsh Road (Old State Trunk Highway 49; County Trunk Highway "AW") in the NW/4 SW/4 SW/4, Section 2, T.13N., R.15E., Chester Township, Dodge County, Wisconsin

UTM: 16.364145.4831200 (southeast abutment)
16.364120.4831215 (northwest abutment)
Quad: Waupon South

Date of construction: 1892-1893

Builder/Designer: Wisconsin Bridge and Iron Company

Present Owner: Horicon National Wildlife Refuge
U. S. Fish and Wildlife Service
Twin Cities, Minnesota

Present Use: Closed to all use. Projected removal is the winter of 1989.

Significance: Chester Bridge is considered important in Wisconsin history because it is a type of bridge that is rapidly disappearing in the State, it is a link in the development of truss bridge construction, and it is an early example of a bridge built by the Wisconsin Bridge and Iron Company.

Historian: H. John Dobrovolny
Regional Historic Preservation Officer
U. S. Fish and Wildlife Service
Twin Cities, Minnesota

March 1989

I. HISTORY

In November 1892, two board members described to the Dodge County Board of Supervisors the award of a contract for a new bridge across Rock River in Chester Township, Wisconsin. The town of Chester had raised $500 for their half of the cost of replacing a 20-year-old wooden bridge, and the county provided slightly less than half the cost of a new bridge. By 1893, for under $1,000, the township had "a bridge which will last a lifetime and not have any further trouble."[1]

What they got was one of eighteen Pratt through truss bridges built in Wisconsin in the 19th century, one of ten built by the Wisconsin Bridge and Iron Company. The bridge continued to serve on the cross-marsh road until 1950 when the new Highway 49 to the north became the main cross-marsh road. Finally, in the 1980s, abutments were collapsing, the metal work on the bridge was rusting, the bridge had been closed to vehicles, repairs were considered inappropriately expensive, and the bridge had to be removed.

Two myths persist regarding Chester Bridge. One is that the bridge was on display at the Chicago World's Fair in 1893. But Wisconsin Bridge and Iron Company completed the bridge over Rock River before the opening of the fair in 1893. Furthermore, the Wisconsin Exhibit Record for the fair has no listing of any bridge company.

A related myth is that the existing bridge was built by the Hennepin Bridge Company of Minneapolis, which would be to say the 1892-93 bridge has been replaced. Hennepin Bridge Company was not in existence in any form prior to 1900. A replaced bridge might allow for this one to have been displayed at the Chicago Fair. However, no one has located any documentary evidence to support the idea of Chester Bridge being replaced after 1893. And the rusty outline of the missing bridge plates could fit one of the four plate styles known to have been used by Wisconsin Bridge and Iron Company.

Chester Bridge is a local bridge over a small river in Wisconsin. It allowed a few families on the east side of the river to get to town on the west side, and farmers on the west side to drive their cattle to pasture on the east side. Later, it was part of the route across Horicon Marsh, until replaced by a new and straighter road. Now, it helps explain the growing popularity of metal truss bridges in the late 19th century, long-lasting bridges that could be purchased cheap and installed with local labor.

II. THE BRIDGE

Chester Bridge is located on Old Marsh Road (formerly Old State Trunk Highway 49 and County Trunk Highway "AW") over the Rock River in the NW/4 SW/4 SW/4, Section 2, T.13N., R.15E., Chester Township, Dodge County, Wisconsin. It is on the northwest edge of Horicon National Wildlife Refuge. The Wisconsin State Historic Preservation Officer considered the bridge to be a significant historic property. But the bridge had to be removed due to safety and management reasons. So, prior to removal of the bridge, the U. S. Fish and Wildlife Service contracted for a historical study by Mr. Robert S. Newbery, staff historian at the Wisconsin Department of Transportation. He submitted his report to the Service on September 14, 1986.[2]

The bridge is a Pratt through truss bridge, described as having six panels, each 14 feet 6 inches long, a total span length of 87 feet. The roadway width is 14 feet 5 inches. The top lateral struts are paired angles. The portal is made up of angles with an outline of a trapezoid overlaid on an "A." The hip verticals are loop welded eyebars; the other vsrticals are mads up of four angles riveted to a solid plate. Use of a plate instead of lacing bars is considered unusual. The expansion bearings are rollers; the floor beams are built-up section. These beams have short pieces of angles attached, the purpose of which has not been determined. The bridge has no piers; its abutments are made of grouted stone.

Some minor changes have bsen made to the bridge over time. The original woodsn railing has been replaced with so-called gas pipe. Some minor damage to the northwest batter post has been replaced by welding a plate to the inside channel. At some point, the bottom portal struts on the northwest end of the bridge were reattached to the batter posts about 1.5 inches farther out.

Prior to 1889, truss bridges were constructed of a combination of wrought iron and cast iron. After 1892, they were generally of steel. Hardness tests indicate Chester Bridge was made of steel. Comparison of Chester Bridge with other Pratt through truss bridges built just before and soon after shows that the change from wrought iron to steel was not particularly important in the design of wagon bridges. Also, when compared with other existing Wisconsin Iron and Bridge Company bridges, simplistic, chronological assumptions about the development of truss bridge design can be avoided.

Chester Bridge is "a fine example of a Pratt Overhead (through) Truss design...one of a rapidly dwindling number" that would provide "significant information on the extent, quality and development of 19th Century metal truss bridge construction in" Wisconsin. The information

contained in the bridge is considered especially important because of "the numerous technological and engineering advances associated with" the 1890s and as an early example of a bridge built by the Wisconsin Bridge and Iron Company, a company important in Wisconsin bridge manufacturing technology.[3]

III. FOOTNOTES

[1] Robert S. Newbery, Determination of Eligibility for Chester Bridge, Chester Township, Dodge County, Wisconsin, p. 5.

[2] Ibid.

[3] The State Historical Society of Wisconsin, November 28, 1986: letter to Richard E. Toltzmann.